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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/820,915

04/07/2004

Stanislav I. Ionov

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EXAMINER

CURS, NATHAN M

ART UNIT

PAPER NUMBER

2613

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/17/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/820,915

Applicant(s)

IONOV ET AL.

Examiner

Nathan Curs

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The Information Disclosure Statement filed 7 April 2004 does not include a date for the non-patent literature reference titled "Nonlinear Fiber Optics" (Agrawal), and the date is not apparent from the reference itself, therefore the reference has not been considered.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1-33 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 3-6, 9-13, 18, 20 and 21 of copending Application No. 10/820472. Although the conflicting claims are not identical, they are not patentably distinct from each other.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1 and 9 of the instant application claim common subject matter with claims 1 and 3, and 13 and 18 of application 10/820472. The instant application is calling the claimed invention a pulse position modulation discriminator, and application 10/820472 is calling the claimed invention an analog to digital converter. However, in application 10/820472, pulse position modulation is claimed for representing the analog signal and pulse position modulation discrimination is claimed for converting the represented signal to a digital signal. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital converter of application 10/820472 to directly discriminate pulse position modulated signals, since the claimed invention of 10/820472 used pulse position modulation discrimination as the basis for achieving analog to digital conversion.

Claims 2 and 12 of the instant application claim amplifying the first and second optical signals. Application No. 10/820472 does not explicitly claim amplifying its first and second optical signals, however it does claim the first and second optical signals passing through optical components having inherent insertion loss (claims 1, 3, 9, 10, 12, 13 and 18 of 10/820472). However, the office takes office notice that amplifying optical signals before the signals enter optical components that have inherent insertion loss is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to amplify the first and second optical signals claimed in the instant application, to provide the advantage of compensating for the insertion loss of the other optical components claimed.

Claim 3 of the instant application claims common subject matter with claim 4 of application 10/820472.

Claim 4 of the instant application claims common subject matter with claims 1 and 3 of application 10/820472.

Claim 5 of the instant application claims an optical switch comprising a Mach-Zehnder interferometer. Application No. 10/820472 does not explicitly claim that the optical switch is a Mach-Zehnder interferometer. However, the office takes official notice that Mach-Zehnder optical switches are well known in the art for being fast optical switches. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a Mach-Zehnder interferometer in the optical switch claimed in the instant application, to provide the benefit of fast optical switching.

Claim 6 of the instant application claims common subject matter with claim 20 of application 10/820472.

Claim 7 of the instant application claims common subject matter with claim 18 of application 10/820472.

Claim 8 of the instant application claims common subject matter with claim 21 of application 10/820472.

Claim 10, 11, 14 and 15 of the instant application claim common subject matter with claims 9, 10 and 12 of application 10/820472. The instant application is calling the claimed invention a method for decoding pulse position modulation signals, and application 10/820472 is calling the claimed invention a method for providing analog to digital conversion. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital conversion method of application 10/820472 to directly discriminate pulse position modulated signals, as described above for claims 1 and 9.

Claim 13 of the instant application claims common subject matter with claim 11 of application 10/820472.

Claim 16-18, 20 and 21 of the instant application claim common subject matter with claims 1 and 3 of application 10/820472. The instant application is claiming a simplified

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apparatus that performs spectrally broadening and optical switching, and application 10/820472 is claiming an analog-to-digital converter that includes apparatus for performing similar functions. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital conversion method of application 10/820472 to simply perform the claimed functions, to provide the benefit of a simplified apparatus that is not bound to a larger analog to digital conversion apparatus.

Claim 19 of the instant application claims common subject matter with claims 1, 3 and 4 of application 10/820472.

Claims 22-24 of the instant application claim common subject matter with claims 9, 10 and 12 of application 10/820472. The instant application is calling the claimed invention a method for converting pulse position modulated optical signals to frequency modulated optical signals, and application 10/820472 is claiming a method for providing analog to digital conversion that includes steps similar to the presently claimed method. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital conversion method of application 10/820472 to convert pulse position modulated optical signals to frequency modulated optical signals, to provide the benefit of a simplified method that is not bound to a more complex analog to digital conversion method.

Claim 25, 26 and 27 of the instant application claim common subject matter with claims 1 and 5 of application 10/820472. The instant application is calling the claimed invention a pulse position modulation discriminator, and application 10/820472 is calling the claimed invention an analog to digital converter. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital converter of application 10/820472 to directly discriminate pulse position modulated signals, as described above for claims 1 and 9.

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Claim 28 of the instant application claims common subject matter with claims 3 and 4 of application 10/820472.

Claim 29 of the instant application claims common subject matter with claim 6 of application 10/820472.

Claim 30 of the instant application claims common subject matter with claim 9 of application 10/820472. The instant application is calling the claimed invention a method for discriminating pulse position modulation signals, and application 10/820472 is calling the claimed invention a method for providing analog to digital conversion. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the analog to digital conversion method of application 10/820472 to directly discriminate pulse position modulated signals, as described above for claims 1 and 9.

Claims 31 and 33 of the instant application claim common subject matter with claims 9 and 12 of application 10/820472.

Claim 32 of the instant application claims common subject matter with claim 10 of application 10/820472.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- US Patent Application Publication No. 2004/0109695 - discloses a third signal with a wavelength based on a time delay between a first optical signal and a second signal, but the second signal is an electrical signal, used to control amplitude modulation of the first optical signal.

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- US Patent No. 6462860, sharing an inventor with the present application - discloses a PPM demodulator that receives a first signal with a first wavelength, a second signal with a second wavelength, and outputs a third signal with a third wavelength; however, the third wavelength is not based on a time delay between the first and second optical signals.
- US Patent Application Publication No. 2005/0095010, sharing an inventor with the present application - discloses a PPM demodulator, but does not disclose outputting a signal having a wavelength based on a time delay between first and second optical signals.

5. Any inquiry concerning this communication from the examiner should be directed to N. Curs whose telephone number is (571) 272-3028. The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached at (571) 272-3022. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (800) 786-9199.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pairect.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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